IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Javier Del Prado Pavon et al.
Serial No.	:	10/559,840
Confirmation No.	:	9613
Filing Date	:	December 8, 2005
Group Art Unit	:	2464
Examiner	:	Ben H. Liu
Attorney Docket	:	PHUS030168

REPLY BRIEF
On Appeal from Group Art Unit 2464

Attn: Board of Patent Appeals and Interferences
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In addition to the arguments presented in the Appeal Brief filed July 7, 2009, and in response to the Examiner's Answer dated October 14, 2009, Appellants submit the following reply.

REMARKS

This Reply Brief is in response to the Examiner's Answer dated October 14, 2009. Reconsideration of this application is respectfully requested in view of the arguments contained in the Appeal Brief of July 7, 2009, prior responses and the following remarks.

STATUS OF CLAIMS

a) Claims 1, 2, 4-12, and 14-20 are pending. Claims 1 and 11 are independent.

b) Claims 1, 2, 4-12, and 14-20 stand rejected and are the subject of this appeal.

c) Claims 3 and 13 are cancelled.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 1, 2, 4-12, and 14-20 are properly rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura (US Patent Application Publication No. 2003/0210673, hereinafter Nishimura) in view of Ho et al. (US Patent Application Publication No. 2003/0169769, hereinafter Ho).

ARGUMENT IN RESPONSE TO THE EXAMINER'S ANSWER

Appellant respectfully responds to the Examiner's Answer below.

A. Claims 1, 2, 4-12, and 14-20 are not properly rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura in view of Ho.

1. Independent Claim 1

Appellant respectfully maintains that the Examiner has not established a *prima facie* case of obviousness, as is required under 35 U.S.C. 103(a), because as discussed below, a suggestion of all limitations in the claims is lacking in Nishimura and Ho.

Appellant's claim 1 defines a method for transmitting data frames over a data network, and calls for:

> transmitting a plural number of MAC (Media Access Control) data frames, each MAC data frame including a header, a data field, and a frame check sequence (FCS), with only a single PLCP (Physical Layer Control Procedure) overhead; and
>
> transmitting a concatenated MAC header indicating said plural number of MAC data frames with the single PLCP. Emphasis added.

In the "Response to Argument" section of the Examiner's Answer (section 10, page 11) (hereinafter "Answer") the Examiner asserts that Nishimura at paragraphs 12, 69, and figure 6 discloses a method of transmitting a plural number of MAC data frames contained in a single extended data packet, and each of the plural number of MAC data frames includes a MAC header, IP packet, and FCS. The extended data packet that contains the plurality of MAC data frames further contains a single PLCP header. Thus, the Examiner asserts on page 12 of the Answer that Nishimura discloses transmitting a plural number of MAC data frames, each MAC data frame including a header, a data field, and a frame check sequence (FCS), with only a single PLCP overhead.

Although Nishimura may disclose transmitting a plural number of MAC data frames, Nishimura does not disclose or suggest transmitting *a concatenated MAC header indicating said plural number of MAC data frames*, (wherein each MAC data frame includes a header, a data field, and a frame check sequence) as required by Appellant's claim 1. The Examiner, starting at the bottom of page 12 through the top of page 13 of the Answer, concedes that Nishimura does not disclose or suggest a MAC header that indicates a plural number of data frames, and relies on Ho as allegedly disclosing such feature of Appellant's claim 1.

Ho at paragraph 15 discloses transmitting a plurality of MAC service data units (MSDUs)

in an aggregation frame. The Examiner further notes that at paragraph 44, Ho discloses the frame subbody count field 126 indicates the number of frame subbodies 132 contained in an aggregation frame 120, and at paragraph 41, each frame subbody 132 contains a MSDU. The Examiner concludes that therefore, the frame subbody count field indicates the number of MSDUs included in the aggregation frame and as such, alleges that Ho in combination with Nishimura discloses or suggests the claimed invention. Appellant respectfully traverses such allegations.

Appellant respectfully points out the distinction between the combination of Nishimura and Ho as compared to the claimed invention. It is commonly known that under the IEEE 802.11 protocol, a MAC data frame is not the same as a MAC service data unit (MSDU). A MAC data frame lies in the MAC sublayer as defined under the IEEE 802.11 format, as a sequence of specifically ordered reserved fields comprising a header, a data field, and a frame check sequence. The MSDU is commonly known as the data portion of a MAC data frame (i.e. the data field portion of the MAC data frame). In other words, the MSDU can be viewed as a subset of a MAC data frame. As such, the MSDU and a MAC data frame are different entities.

The Examiner, on page 12 of the Answer, indicates that "the concatenated MAC header portion as recited in claim 1 provides information regarding the *number of frames* following the PLCP header." Emphasis added. Appellant respectfully points out that this assertion is not entirely correct because the Examiner apparently defines "frames" in a broad and generic manner, however, the claimed invention defines "frames" more narrowly. For example, claim 1 requires a concatenated MAC header indicating a plural number of MAC data frames (wherein each MAC data frame includes a header, a data field, and a frame check sequence) with a single PLCP. As such, Appellant respectfully restates the Examiner's assertion, in that the concentrated

MAC header portion of claim 1 provides information regarding the number of *MAC data frames*, wherein each MAC data frame includes a header, a data field, and a frame check sequence, with only a single Physical Layer Control Procedure overhead.

Although Ho at paragraph 15 may disclose the subbody count field which indicates the number of MSDU frames are included in the aggregate frame, Ho does not disclose or even suggest a MAC header indicating a plural number of MAC data frames as set forth in claim 1. A closer analysis of Ho appears to indicate that the *aggregation frame* of Ho may be equivalent to a MAC data frame (see Ho, paragraph 15, "[t]he aggregation frames include a plurality of MAC service data units (MSDUs). . . ."). As pointed out above, the frame subbody count field indicates the number of frame subbodies contained in an aggregation frame, and each frame subbody contains a MSDU. In other words, Ho teaches a frame subbody count field which indicates the number of MSDUs in an aggregation frame. The aggregation frame apparently is equivalent to a MAC data frame, and as such Ho would teach the equivalent of a frame subbody count field which would indicate *the number of MSDUs in a MAC data frame*. However, Ho does not teach or even suggest a header indicating *the number of MAC data frames*.

On page 13 of the Answer, the Examiner notes that Nishimura at paragraphs 80-83 further discloses detecting the size of the received packet to determine whether the received packet is a conventional packet with a single data unit or a more efficient packet that contains a plurality of data units. Thus, the Examiner alleges that Ho's frame subbody count field 126 in combination with Nishimura enables a determination as to whether the received packet contains a plurality of data units for processing without the step of detecting the size of the received packet, and as such, the motivation for using the frame subbody count field with the apparatus of transmitting combined data frames over a data network is to provide information regarding the

transmitted data in order to allow the receiver to determine whether a received packet contains multiple data units without having to detect the size of the received packet.

Although Nishimura relates to an extended MAC protocol data unit (MPDU) (see Nishimura at paragraph 2), Appellant respectfully points out that the combination of Nishimura and Ho is completely different from the claimed invention. Nishimura at paragraphs 80-83 discloses an operation in processing on a received MAC packet. However, such MAC packet appears to be equivalent to the MSDU of Ho. Nishimura at paragraph 12 discloses "a physical layer having a MAC protocol data unit including the MAC packet. . . ." In other words, the MAC packet of Nishimura appears to be equivalent to the MSDU of Ho, while the MAC protocol data unit (MPDU) of Nishimura appears to be equivalent to the aggregation frame of Ho (which also appears to be equivalent to the MAC data frame of claim 1). As such, Appellant's claimed invention is completely different because the combination of Nishimura and Ho does not disclose or suggest a header indicating the number of *MAC data frames* (wherein each MAC data frame includes a header, a data field, and a frame check sequence). As explained above, Ho relates to the MSDU, which is a subset of the aggregation frame, while Nishimura relates to the MAC packet, which is a subset of the MPDU. Therefore, the claimed invention would not be obvious to one of ordinary skill in view of the combination of Nishimura and Ho because the cited references appear to be related to the number of *subsets* of the claimed MAC data frame and not the number of MAC frames in the MAC sublayer. Furthermore, neither Ho nor Nishimura suggests a need for a header to indicate the number of aggregation frames (Ho) or the number of MPDUs (Nishimura). As such, the combination of Nishimura and Ho does not disclose all of the limitations of claim 1. Furthermore, as pointed out above, the combination of Nishimura and Ho would not motivate or enable one of ordinary skill in the art to invent the

features of claim 1.

For at least the foregoing reasons, it is respectfully submitted that a *prima facie* case of obviousness, as is required under 35 U.S.C. 103(a), has not been established and the rejection should be reversed.

2. Independent Claim 11

Independent claim 11, although different from claim 1, includes several similar distinguishing features as discussed above with respect to claim 1. For example, claim 11 recites a station forming a frame structure of packet data for transmission over a data network, while claim 1 recites a method. Claim 11 also includes the feature of a concatenated MAC header indicating said plural number of MAC data frames with the single PLCP, wherein each MAC data frame includes a header, a data field, and a frame check sequence (FCS), and only a single one of said PLCP overhead is provided to the plurality of MAC data frames.

The Answer uses substantially the same arguments as set forth with regard to claim 1, alleging that claim 11 is unpatentable over the combination of Nishimura and Ho. Appellant essentially repeats the above arguments for claim 1 and apply them to claim 11. As such, Appellant submits that the Office has not presented a prima facie case of obviousness and the rejection to independent claim 11 under 35 U.S.C. 103(a), is unfounded and should be reversed. As such, Appellant respectfully submits that claim 11 is in condition for allowance.

3. Claims 2, 4-10, 12, and 14-20

Claims 2 and 4-10 ultimately depend from claim 1; and claims 12 and 14-20 ultimately depend from claim 11. Each dependent claim incorporates by reference all of the features of the allowable parent claim. Furthermore, each dependent claim includes additional distinguishing features. For each dependent claim Appellant essentially repeats the above arguments from

claim 1 and applies them to each dependent claim. As such, Appellant respectfully submits that claims 2, 4-10, 12, and 14-20 are allowable at least by virtue of their dependency on allowable base claim and that the rejection under 35 U.S.C. 103(a), is unfounded and should be reversed.

CONCLUSION

In light of the above and Appellant's Appeal Brief, Appellant respectfully submits that the rejections of claims 1, 2, 4-12, and 14-20 are in error, legally and factually, and must be reversed.

Respectfully submitted,

By: /Brian S. Myers/
Brian S. Myers
Attorney for Appellant
Reg. No. 46,947